Pions in ECAL

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Fermilab

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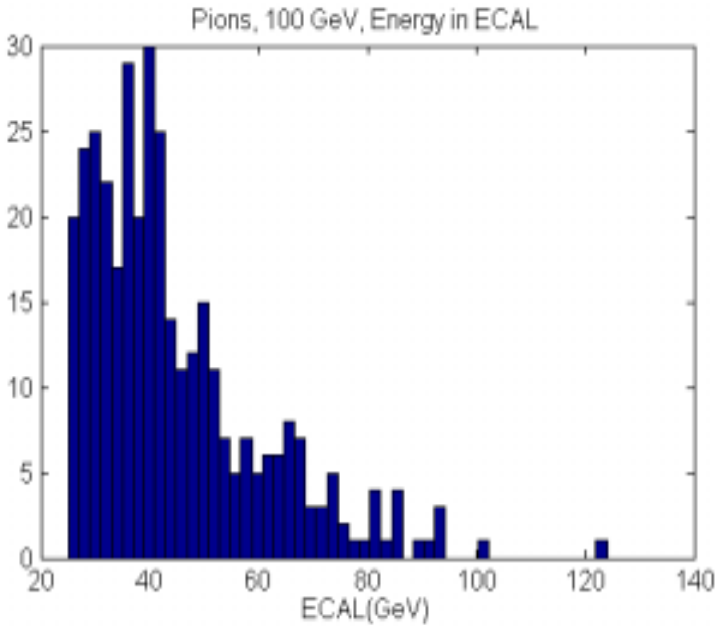
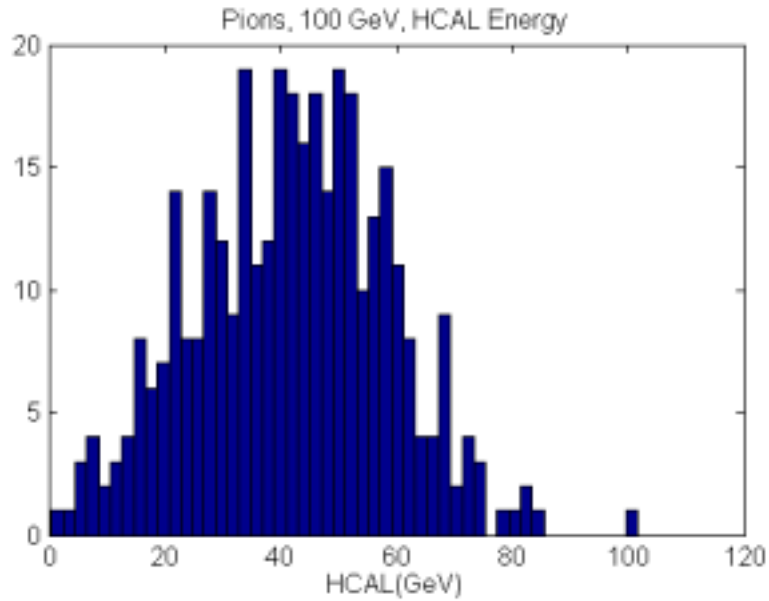
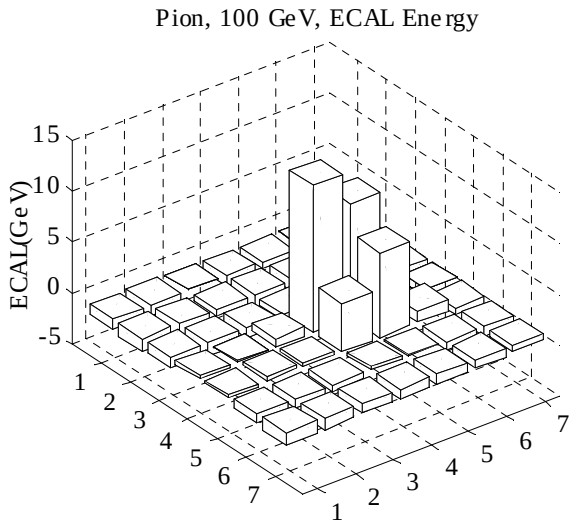
Interactions in ECAL

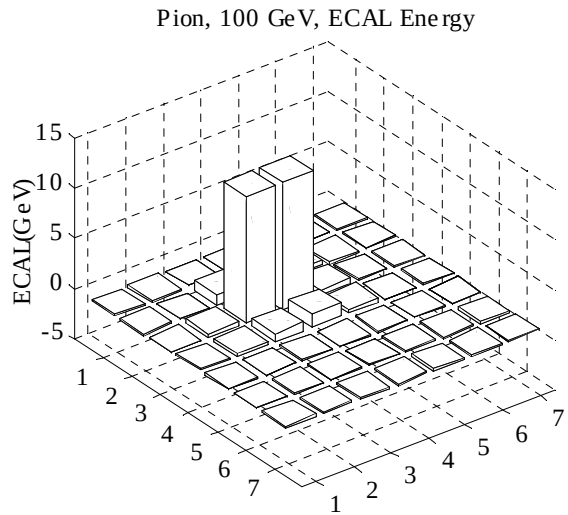


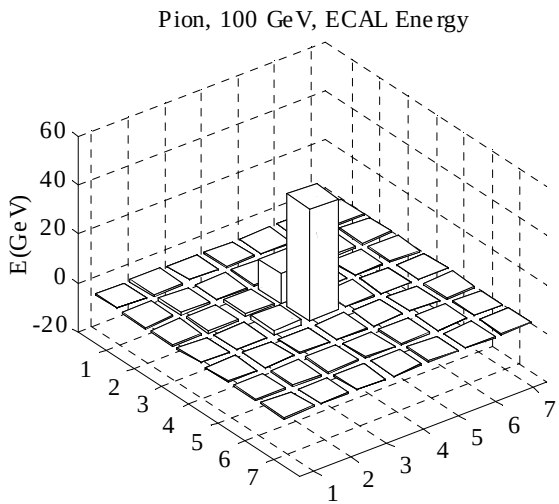


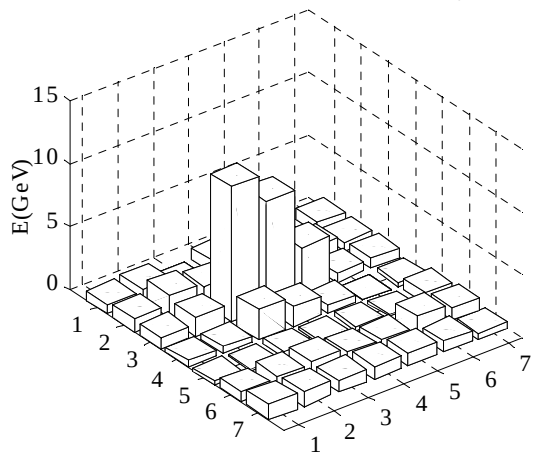
Is the fine grained ECAL useful in particle ID of pions as opposed to photons? Look at 100 GeV test beam in 7 x 7 crystal array. Ask for > 25 GeV in ECAL (36 % of all pions)

Transverse Shape

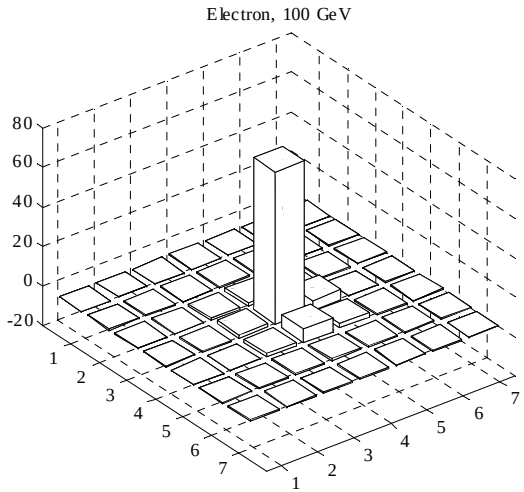


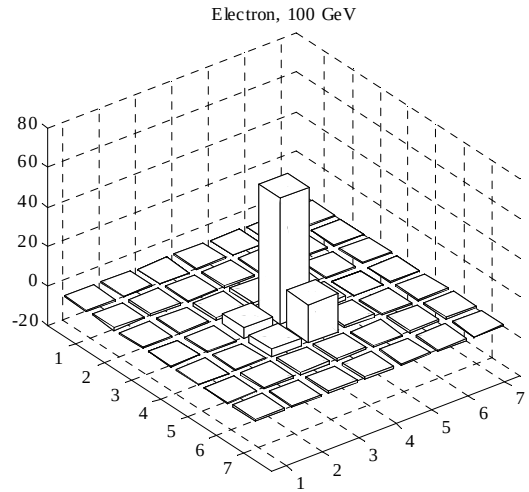


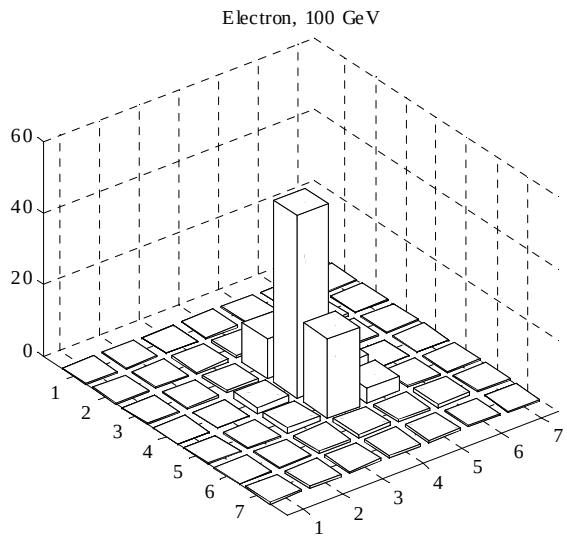


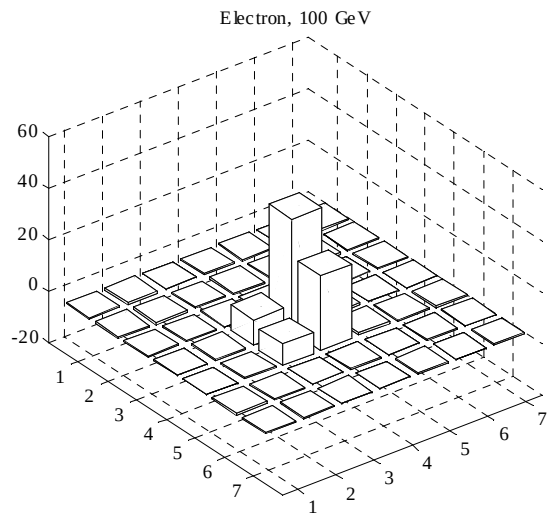


e Transverse Shape

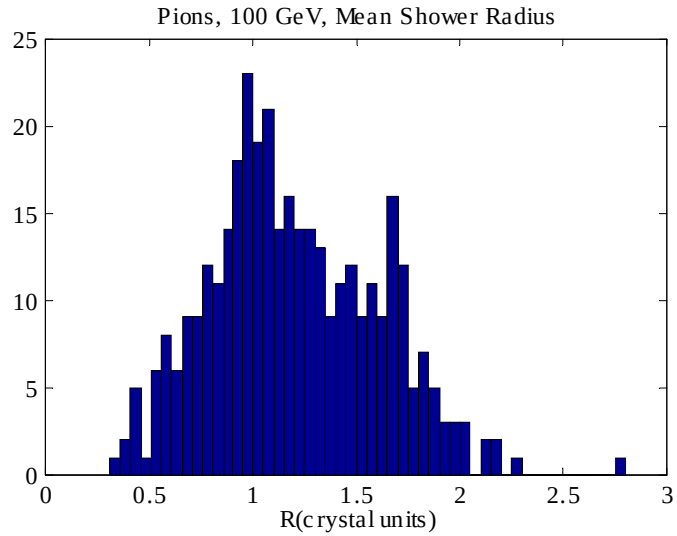


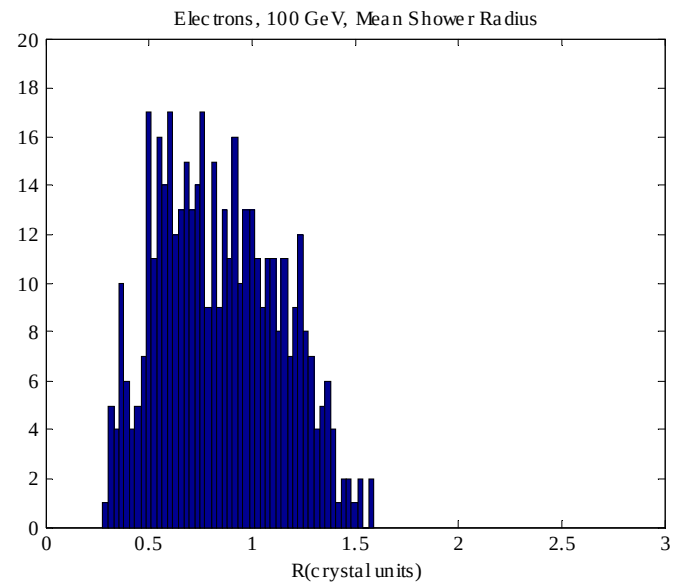






Pion in ECAL - Radius





For each pion find energy weighted x and y mean. Subtract those from the x and y of the center of each cell in the 7 x 7 array. Compute the resulting energy weighted mean radius. For pions the mean is 1.20 (in units of crystal size – the x width of a crystal) and the rms is 0.41. For electrons the mean is 0.85 with a 0.29 rms